Aviation Performance Measuring System (APMS)

Tools which measure performance are needed for systems analysis and reducing mission risk. The tools of APMS are applicable to space flight operations in areas such as engineering, maintenance, training, scheduling, and dispatch.

Objective

APMS, an element of the Aviation System Monitoring & Modeling project, is developing technology to enable very large quantities of flight data to be processed in a highly automated fashion in order to address questions relating to operational performance and safety in a regular and routine manner.

Approach

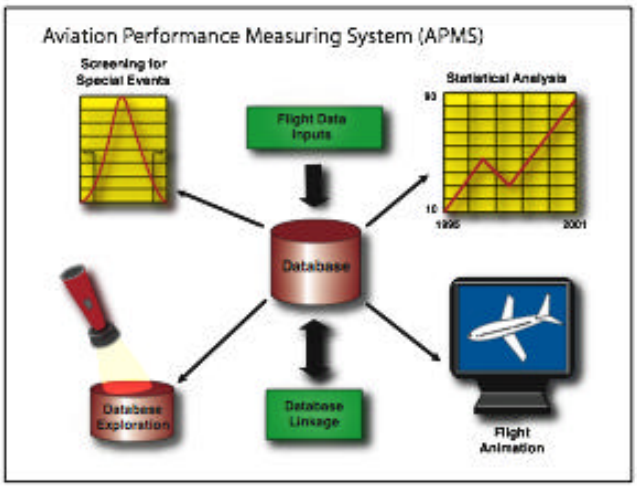
Working with U.S. airlines to establish user needs, APMS has enhanced the existing COTS capabilities for Flight Operation Quality Assurance (FOQA) in the form of knowledge-based computerized assistance for proactive assessment of safety risk. Using APMS tools, analysts can better identify, verify, and interpret both exceedances and routine operations. For example, the "Morning Report" searches flight data for patterns of typical and atypical operations which may spot developing risks. It facilitates data mining through regular review of routine operations.

Impact

APMS will change the philosophy of operations for air carriers by enabling routine monitoring of flight data to support not only flight operations but eventually engineering, maintenance, training, scheduling, and dispatch. The tools of APMS are applicable to space flight operations.

Information Technology

APMS incorporates innovative technology for rapid processing of very large volumes of heterogeneous, complex data, and state-of-the-art tools for extraction, presentation and visualization of information from flight data.



Relevance to Exploration Systems

Tools which measure performance are needed for systems analysis and reducing mission risk. The tools of APMS are applicable to space flight operations in areas such as engineering, maintenance, training, scheduling, and dispatch.

H&RT Program Elements:

This research capability supports the following H&RT program/elements:

ASTP: Advanced Studies, Concepts and Tools; Software, Intelligent Systems & Modeling

TMP: Advanced Space Operations

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